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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,214	03/22/2004	Mark Lynn Jenson	1327.008US2	3294

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LEMAIRE PATENT LAW FIRM, P.L.L.C.
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EXAMINER

CREPEAU, JONATHAN

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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08/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/807,214	Applicant(s) JENSON ET AL.	
	Examiner Jonathan S. Crepeau	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-27,31-36,38-41,55-78 and 80-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-27,31-36,38-41,55-78 and 80-91 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office action addresses claims 22-27, 31-36, 38-41, 55-78, and 80-91. The claims remain rejected under 35 USC 103 for the reasons of record. Accordingly, this action is made final.

Claim Rejections - 35 USC § 103

2. Claims 22-27, 31-36, 38-41, 55-78, and 80-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuttle et al (U.S. Patent 5,448,110).

The reference is directed to an enclosed transceiver device comprising a battery (60) located on a substrate (78), a capacitor (62) on the battery, and an integrated circuit (64) on the capacitor (see Fig. 5B). Regarding claims 36 and 55-59, the substrate comprises a polymer such as polyester or polyethylene which can be laminated with metal, PVDC, or SiN (see col. 9, line 20). Regarding claims 27 and 31, among others, an insulating layer (100) is deposited on the device and traces (through vias) (128) electrically interconnect the components (see Fig. 6E). Regarding claims 90 and 91, an encapsulation layer (114) is present on the device. Regarding claims 88 and 89, a recharging circuit is present in the integrated circuit (see col. 11, line 5).

The reference does not expressly teach that one or both electrodes contain an intercalation material, as recited in each of the independent claims.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the artisan would be motivated to use such materials in the battery of Tuttle et al. The artisan would first be motivated to use a lithium battery as the battery of Tuttle due to its high energy density, and would further be motivated to use a lithium-ion chemistry to increase safety of the battery. Accordingly, the claimed intercalation materials, which are widely used in lithium-ion batteries, would be rendered obvious.

The reference further does not expressly teach that the battery and/or capacitor layers are “successively” deposited on the substrate, as recited in claims 24, 27, 31, 33, 63-68, 77, and 78. However, the reference provides sufficient guidance for the artisan to manufacture the apparatus in this way. First, it is noted that in column 9, line 25 et seq., it is disclosed that the components of the apparatus (i.e., thin film battery, capacitor, and integrated circuit) are adhered together with conductive epoxy, suggesting that the components are pre-fabricated. However, at column 12, line 64, the reference discloses the following:

For example, various modifications and changes may be made in the antenna configurations, battery arrangements (such as battery stacking), device materials, **device fabrication steps**, and the functional block diagrams without departing from the scope of this invention. **The various off-chip components such as the antenna, battery, and capacitor are manufactured on-chip in alternate and equivalent embodiments.**
(emphasis added)

Accordingly, the reference teaches that on-chip fabrication techniques are at least equivalent to off-chip techniques. This would render obvious the claimed steps of successively depositing layers on a substrate as recited in claims 24, 27, 31, 33, 63-68, 77, and 78. Further, as previously

stated on the record, absent evidence to the contrary, the reordering of method steps is generally not sufficient to patentably distinguish over a reference.

Tuttle further does not expressly teach that a battery and a capacitor are located next to each other on the substrate as recited in claims 39, 40, 67, 77, or 78. However, the reference teaches embodiments in Figures 2 and 8 wherein the integrated circuit is located on the substrate next to the battery. Further, as noted above, the reference teaches that a wide variety of structural modifications may be used in making the device. Accordingly, the claimed side-by-side configurations of the battery and capacitor, and additionally the capacitor base layer configurations of claims 65 and 66 are considered to be mere rearrangements of the components of Tuttle that would be obvious to a person of skill in the art. Such a rearrangement of parts has generally been held to be obvious in the absence of a new or unexpected result (MPEP 2144.04).

Tuttle further does not teach that the assembly is curved so as to have a concave face and a convex face, as recited in claims 35, 60-62, 69-71, and 75. However, it has been held that changes in shape are generally not patentably significant unless a new or unexpected result is achieved (MPEP 2144.04). As such, the claimed configuration is not considered to distinguish over the reference.

Response to Arguments

3. Applicant's arguments filed June 12, 2007 have been fully considered but they are not persuasive. Applicant states that "*Tuttle et al.* merely state that 'various modification and

changes may be made' without describing what those might be." However, as stated in the rejection, the reference expressly teaches that "[t]he various off-chip components such as the antenna, battery and capacitor are manufactured on-chip in alternate and equivalent embodiments." The term "on-chip" clearly suggests to one of skill in the art that a thin-film deposition method is used to fabricate the battery and capacitor of Tuttle et al. As evidence, the following disclosures are cited: col. 6, line 11 of U.S. Patent 5,827,415 ("[t]his provides an opportunity for the entire sensor, including the electrodes and the electrode leads, to be made by using thin film deposition technology to fabricate micron size on-chip or stand-alone oxygen sensors"); and col. 1, line 35 of U.S. Patent 6,229,227 ("[o]n-chip resistors typically are fabricated by base diffusion, emitter diffusion, ion-implantation or by thin-film deposition"). In view of the multiple layers required by the battery and capacitor of Tuttle et al., it would be obvious to use a thin-film deposition process such as sputtering to fabricate the components, either using the integrated circuit (64) as the substrate or the layer 78 as the substrate.

Regarding claims 36 and 55-59, Applicants state that the reference does not teach a polymer having a melting point of less than 700 degrees Centigrade. However, this feature is inherent in the polymers of the reference. It is further argued that the reference fails to teach a metal foil, glass, or ceramic. However, as stated above, the reference teaches that the substrate comprises a polymer that can be laminated with metal, PVDC, or SiN (col. 9, line 20). The metal corresponds to the claimed metal foil and the SiN corresponds to the claimed glass and ceramic.

Regarding the recitations of intercalation materials in each of the independent claims, the position is maintained that the use of these materials would be obvious in the battery of Tuttle et al. As evidence, U.S. Patent 6,344,366 to Bates is cited. This reference is directed to a thin-film battery comprising a sputtered LiCoO_2 cathode. In column 1, line 20, the reference teaches a "lithium ion battery," thereby inherently disclosing an anode intercalation material. It would have been well within the skill of the art to use anode and cathode intercalation materials, as exemplified by Bates, in the battery of Tuttle et al.

Regarding claims 35, 60-62, 69-71, and 75, Applicant asserts that the curved configuration allows the external case of a device such as a cell phone or calculator to be made of such a curved shell. However, this statement is not commensurate with the scope of the claims, which merely require that the substrate has a convex and concave shape, and do not recite a cell phone or calculator. It is reiterated that such a change in shape to the apparatus of Tuttle would not change the function of the apparatus and thus is not sufficient to distinguish over the reference.

Conclusion

4. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Primary Examiner
Art Unit 1745
August 24, 2007